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PREFACE.

THE Society, in conformity to their usual custom of paying due respect and attention to the memory of those individuals who have contributed to extend the useful objects of their Institution, have this year prefixed to their Volume the Portrait of the late Sir WILLIAM DOLBEN, Bart. who, for a long series of years, was a zealous promoter of the Arts, Manufactures and Commerce of his Country.

Sir WILLIAM DOLBEN became a Member of the Society in February, 1759, was elected a Vice-President in March, 1784, and was very attentive in the discharge of that duty, till the infirmities of age, some years previous to his decease, rendered it too arduous an undertaking for his enfeebled constitution; this he stated in a very impressive letter to the Society, begging leave to decline the honor, as he found himself unable to execute the office in a manner suitable to his own conscientious views upon the subject.

The Society in answer, expressed their great concern for the cause of his offered resignation, but unanimously desired that he would continue to retain the situation, without being considered responsible for the duties of the office;—with this request he complied.

Sir **William Dolben** was a Vice-President of the Marine Society, and took an active part in their concerns. He represented the University of Oxford in Parliament for nearly thirty years, and had also set in one Parliament for the County of Northampton. He died at Bury St. Edmunds, in April 1814, at the advanced age of eighty-seven.

The arrangement of the present Volume will be found in the usual order, commencing with the Class of Agriculture, under which several valuable Communications will be found.

The Plantations of **William Liddell**, Esq. at Kildy Grange, are not only interesting from the quantity of young Oaks which they contain in a flourishing state, but as they bid fair, from their apparent value, to excite a spirit of emulation for similar improvements in that neighbourhood.

Much praise is due in respect to the exertions of **Godfrey Higgins**, Esq. for making good meadow and pasture Land from 180 Acres of waste, which, from local situation, lay under a great number of disadvantages, requiring much skill and judgment to overcome.

The growth of Larch becomes daily of greater importance than formerly, not only from its value as timber, but from the general application of its bark for tanning leather, which will be the means of preserving much oak timber that would otherwise have been destroyed, owing to the high price of bark. Mr. E. **Backhouse**'s Plantations of Larch are very extensive, and diversified with other forest trees.

Mr. T. H. **Scott**'s Improvements of Waste Land are important, not only from their great extent, but from the valuable hints they furnish to persons inclined to similar pursuits, and the certain advantages arising from money so expended.

The Turn-wrest Plough invented by Mr. J. **Wilkinson**, is sanctioned by a number of most respectable Signatures; it is singularly useful in ploughing the sides of hills, and in laying land level, and is likely to be found an implement of great utility in Agriculture.

From the construction of Mr. J. **Braby's** Cart and Drag, much security and ease are afforded to horses descending steep hills with heavy loads, besides the advantage arising from its mode of discharging partially at will its contents, in the manuring of land.

The attention of the public has been lately much excited by the controversy respecting the culture and application of Mangel Wurzel. Mr. **Leonard Phillipps**, Jun. has furnished much useful information respecting this plant, and its preservation during the winter months, when other food for cattle is scarce. It may fairly be inferred, from the general observations made here and in many public journals, that it is a very valuable plant for fattening cattle, that its product is greater on an equal extent of land than any other vegetable crop known; that the flesh of cattle fed therewith is remarkably well-flavored; and that the milk and butter furnished by cows using it as general food, is very rich and well-flavored, although their milk may not be so abundant in quantity as is produced from being fed on some other vegetables.

The information afforded by J. C. **Curwen**, Esq. on his method of soiling or feeding cattle in the house, displays a new system of providing animal food in perfection in a shorter period than has heretofore been supposed possible; and his testimony is strong in favor of the great value of the Mangel Wurzel in fattening cattle.

The simple and ingenious mode of raising new potatoes during the winter months, as exemplified by Miss Ann Clague, will probably afford a pleasing and useful amusement to persons inclined to Agricultural Experiments, besides furnishing, at little expense, a valuable article for the table, as the potatoes thus grown have certainly a superior flavor to any before raised upon the numerous plans heretofore proposed for that purpose. This improved mode of rearing a valuable vegetation is particularly interesting to an attentive observer of the works of nature.

Numerous Rewards have been given this Session in the Class of Polite Arts, the particulars of which are given in page 22, at the end of the List of the Premiums offered. The following articles occur in the present Volume under that Class.

An instrument called a Centro-linead, useful for drawing in Perspective, invented by Mr. Peter Nicholson, which is easy in application, and performs with greater facility than the instruments generally used for such purposes.

An instrument useful in Perspective Drawings, invented by Mr. J. FAREY, Jun. and which he observes he has found a very valuable acquisition in his practice.

An instrument invented by Mr. EDMUND TURRELL, for drawing in Perspective, and called by him a Perspectograph; it is simple in form, small in bulk, and moderate in price, and performs the business with so much accuracy, that chrystallizations, or the most difficult objects, may be perfectly delineated.

Under the Class of Manufactures, the Calico Printer's Block invented by Mr. Marshall, deserves attention for the ingenuity of its construction, and the variety of patterns and colours which it is capable of exhibiting in use.

The various inventions and improvements produced this Session under the Class of Mechanics, will be found highly interesting and advantageous.

Any matter conducive to improvement and saving of expense in building of Ships, must be important to a nation depending so much as this upon its Navy.

The difficulty of procuring timber formed by nature with the particular curves wanted in Ship-building, is well known, and the merit of the improved method of bending Timber upon Mr. **WILLIAM HOOKEY's** plan, will be duly appreciated.

The Pump invented by Mr. **PETER HEDDERWICK**, by means of which double the usual quantity of water can be raised in the same time from the same bore, will probably be the means of saving many a Ship, as the Pistons in common use cannot discharge a sufficient quantity of water in case of a bad leak in the vessel.

Mr. **CHARLES WILLIAMS'** Family Mill will enable those who grow their own corn, to be certain of producing good flour without risk of change or embezzlement by the miller.

The Wind-up Bedstead, invented by Mr. **WOODALL**, will afford great comfort to sick or lame Persons, as a single person can change the position of the Patient without exposing him to the unpleasant jerks which have usually atttended those heretofore in use.

The Crutches presented by Mr. **LAURENCE**, have much merit, from the simplicity of their construction, and the ease afforded both to the hands and shoulders of the invalid, who requires such assistance.

The cheap and useful Octant invented by Mr. **Byron**, will be a very valuable instrument to the sailor, and save him much trouble in calculating the ship's way.

The lovers of harmony will be highly gratified by Mr. **Levien**'s improvement of the Harp Guitar, an instrument which displays the female form to advantage, and from the addition made by him, is capable of being much more useful in its extent of power, and of uniting its effects in concert with other instruments.

Great merit attaches to Mr. **Peter Nicholson**, for his indefatigable exertions in the advancement of useful knowledge, and confirming on mathematical principles the objects he brings forward to the public. His new and correct mode of squaring a Hand-rail round the Winders of a Stair-case, not only saves a great expense in that article, but its principle is also useful in all works where both plan and elevation are circular; and in works of double curvature it will effect a great saving of time and trouble to the workmen.

The Equation Work for a Clock, invented by Mr. H. **Ward**, to ascertain the difference between the sun's apparent and mean motion, will be found deserving of attention.

The dispatch of business in the service of the Navy, and the means of preventing the embezzlement of Government stores, are most important objects, both of which are attained in the rigging department by Mr. HORN's invention for cutting Canvas for the use of riggers.

Mr. MARTIN's Weighing Machine possesses simplicity and portability, and will be a useful instrument in a family to ascertain the correctness of weight of the articles purchased.

The aukwardness and waste arising from feeding horses with corn in nose-bags whilst standing in the street, must be obvious to every observer, and it will afford pleasure to a humane mind to alleviate any of the inconveniencies to which these noble animals are subject, and which will be effected in a great degree by Mr. CHARLES DRURY's invention.

Perhaps at no period of time whatever has more pains been taken to promote the education of youth than at present; the means which have been adopted both by Mr. FOLSCH and Mr. KEYWORTH, to accomplish this end, have great merit, and each of their modes will be found in practice conducive to that purpose.

Where persons have occasion to pass through a doorway, frequently great delay is occasioned where the door opens only one way, and is required to be closed by the person who opens it. The Double Spring invented by Mr. STONE, allows the door to open with ease either way, and to close itself when quitted.

Seldom a year elapses without dreadful accidents occurring to persons from cleaning windows, or painting the sash-frames on the outside of the building. By Mr. WILSON's invention, either sheet of the sash may be easily brought within the room by a common servant, to be perfectly cleaned, and replaced without injury to the sash-cords or beadings of the window, and all danger prevented.

Great ingenuity has been displayed by Mr. BOYCE, in the construction of a Safety Boat or Raft, to preserve the lives of persons who fall overboard from a ship, and in furnishing the means of persons reaching the shore, where a common boat could not live.

To Mr. CLEGHORN the public are much indebted for the great pains he has taken in various modes of affording assistance to seamen in danger. The Buoyant Line lately invented by him, to preserve the lives of mariners, will be found to possess great merit, both from the simplicity of its construction, and its certainty of effect.

Mr. SCOTT's method of uniting quickly the standing Rigging of Ships when broken in action, will probably prevent many of the accidents to which our ships of war are liable, from the usual efforts of the enemy to direct their fire against the Rigging, in order to secure their own escape, and prevent our sailors from manœuvring the vessel.

J. MILLER, Esq. of Bedford, is intitled to great commendation for his various philanthropic exertions to preserve persons from a watery grave; several of his inventions have been noted in our former Volumes, and it is a pleasure now to add that of preserving persons from drowning when the ice breaks under them, by a cheap, simple, speedy and efficacious method.

Under the Class of Colonies and Trade, the encouragement of our fisheries has long been attentively kept in view by the Society, and the Communication by Mr. SIEVERS on the method of taking and curing Herrings in the Dutch method, will considerably tend to promote the object.

The method of preserving Mackarel, as described by Mr. London, will be found of great importance to the public, by introducing a valuable stock of excellent provision, which has hitherto been too much neglected.

We cannot proceed to make our observations on Dr. Roxburgh's important Communication on the different products of the East Indies, without pausing to contemplate the extraordinary exertions, which, for a long series of years he has made for the improvement of Natural History, particularly that of the East Indies. Distinguished by a mind clear and comprehensive, he has displayed infinite knowledge in all his descriptions and arrangements, and a most unremitting industry in all his pursuits. We lament to announce, that in the present month he has paid the great debt of nature, and it remains to us to pay a last tribute of respect to this inestimable character.

The Committee, in arranging the Subjects of the present Volume, have endeavoured to be concise in the Communications, rather than to adopt the redundancy of words frequently adopted by the Claimants; the Volume, therefore, though not apparently large in size, contains much valuable information.

The **Engravings** will be found more numerous than usual, in order that the subjects mentioned may be fully elucidated. The Drawings of the Machines have been made by Mr. C. **Varley** and Mr. **Nicholson**; that of the Portrait by Mr. C. **Uwins**. The Engraving of the Portrait was executed by Mr. C. **Warren**; and the other Engravings by Mr. **Ambrose Warren**, Mr. **Davies**, Mr. **Turrell**, Mr. J. **Taylor**, and Mr. **Bacon**, and the whole executed in a manner highly creditable to the Society, and to the Artists.

The Improvements in the Society's Model Room have given general satisfaction, and the Library of the Society continues annually to increase.

The Society take the present opportunity of returning their Thanks to the different Public Bodies and Individuals who have honored them with Presents during the Session, the particulars of which are noticed in page 211 of the present Volume.

It is with great pleasure that we continue to announce the flourishing state of the Society; that in the present Session they are proceeding to reward many objects of great consequence, and are ever ready to pay attention to such of the useful Arts as are likely to benefit the Public;

and that their funds enable them to extend their Bounties to many objects not particularized in their List of Premiums.

The Society desire it to be clearly understood, that, as a Body, they are not responsible for any opinion or representation of facts contained in the following pages.

February, 1815.